

### ABSTRACT OF THE DISCLOSURE

In accordance with one embodiment of the present invention, there is provided a mechanism for implementing transfer of arbitrary length messages between one or more machines in a computing environment comprised of a plurality of machines. With this mechanism, it is possible to send and receive messages of arbitrary length across memory-based or other interconnects using a single operation. In one embodiment, the machines are interconnected by a memory-mapped link. The memory-mapped link includes processes for mapping an image of a buffer allocated in the storage of the receiving machine into the addressing space of the sending machine. The sending machine may transfer the message to the memory of the receiving machine using a single write operation to the memory mapped image in the sending machine's own address space.